Application No. 10/765,140

Reply to Office Action of December 27, 2007

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A sputtering apparatus, comprising:

a vacuum chamber;

a cylindrical substrate holder supported rotatably in the vacuum chamber; and

a substrate mounted on an outer cylindrical surface of the substrate holder, wherein

the vacuum chamber includes a first film deposition area and a second film deposition

area for deposition of a film on the substrate,

the first film deposition area includes a first sputtering source comprising a first

cathode and a first target held on the first cathode and a first plasma generator located so as to

be adjacent to the first sputtering source,

the second film deposition area includes a second sputtering source comprising a

second cathode and a second target held on the second cathode and a second plasma

generator located so as to be adjacent to the second sputtering source,

the first sputtering source and the first plasma generator are partitioned from each

other and a first exhaust port and a second exhaust port are provided on each side of the

partition, and the second sputtering source and the second plasma generator are partitioned

from each other and a third exhaust port and a fourth exhaust port are provided on each the of

said partition, and

a first shutter of the first sputtering source and a second shutter of the second

sputtering source are configured to be opened simultaneously, and the first plasma generator

and the second plasma generator are configured to be operated simultaneously.

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Claim 2 (Original): The sputtering apparatus according to Claim 1, wherein the first cathode and/or the second cathode comprises a pair of cathodes to which a discharge voltage is alternately applied from an AC power source or a DC pulse power source.

Claim 3 (Previously Presented): The sputtering apparatus according to Claim 1, wherein each of the first and second shutters are configured to be opened and closed with a same angular position with respect to the first cathode and the second cathode.

Claim 4 (Previously Presented): The sputtering apparatus according to Claim 1, wherein the first plasma generator and/or the second plasma generator is a plasma generator configured to generate plasma by a microwave discharge or an inductive or capacitive coupling type high frequency discharge.

Claim 5 (Currently Amended): A sputtering apparatus, comprising:

a vacuum chamber;

a circular disk-like substrate holder supported rotatably in the vacuum chamber; and a substrate mounted on the circular disk of the substrate holder,

wherein the vacuum chamber includes a first film deposition area and a second film deposition area for deposition of a film on the substrate,

the first film deposition area includes a first sputtering source comprising a first cathode and a first target held on the first cathode and a first plasma generator located so as to be adjacent to the first sputtering source and an exhaust port located in a side wall of the vacuum chamber,

the second film deposition area includes a second sputtering source comprising a second cathode and a second target held on the second cathode and a second plasma

generator located so as to be adjacent to the second sputtering source and an exhaust port located in a side wall of the vacuum chamber,

the first sputtering source and the first plasma generator are partitioned from each other and a first exhaust port and a second exhaust port are provided on each side of the partition, and the second sputtering source and the second plasma generator are partitioned from each other and a third exhaust port and a fourth exhaust port are provided on each the of said partition, and

a first shutter of the first sputtering source and a second shutter of the second sputtering source are configured to be opened simultaneously, and the first plasma generator and the second plasma generator are configured to be operated simultaneously.

Claim 6 (Original): The sputtering apparatus according to Claim 5, wherein the first cathode and/or the second cathode comprises a pair of cathodes to which a discharge voltage is alternately applied from an AC power source or a DC pulse power source.

Claim 7 (Previously Presented): The sputtering apparatus according to Claim 5, wherein each of the first and second shutters are configured to be opened and closed with the same angular position with respect to the first cathode and the second cathode.

Claim 8 (Previously Presented): The sputtering apparatus according to Claim 5, wherein the first plasma generator and/or the second plasma generator is a plasma generator configured to generate plasma by a microwave discharge or an inductive or capacitive coupling type high frequency discharge.

Claims 9-12 (Canceled).

Claim 13 (Previously Presented): The sputtering apparatus of Claim 1, wherein, two different types of metals are employed as target materials, and each type of metal is oxidized by plasma and deposited.

Claim 14 (Previously Presented): The sputtering apparatus of Claim 5, wherein, two different types of metals are employed as target materials, and each type of metal is oxidized by plasma and deposited.

Claim 15 (New): The sputtering apparatus according to Claim 1, further comprising: a fifth exhaust port provided on a first side wall of the vacuum chamber between the first and second film deposition areas; and

a sixth exhaust port provided on a second side wall of the vacuum chamber between the first and second film deposition areas.

Claim 16 (New): The sputtering apparatus according to Claim 5, further comprising: a fifth exhaust port provided on a first side wall of the vacuum chamber between the first and second film deposition areas; and

a sixth exhaust port provided on a second side wall of the vacuum chamber between the first and second film deposition areas.